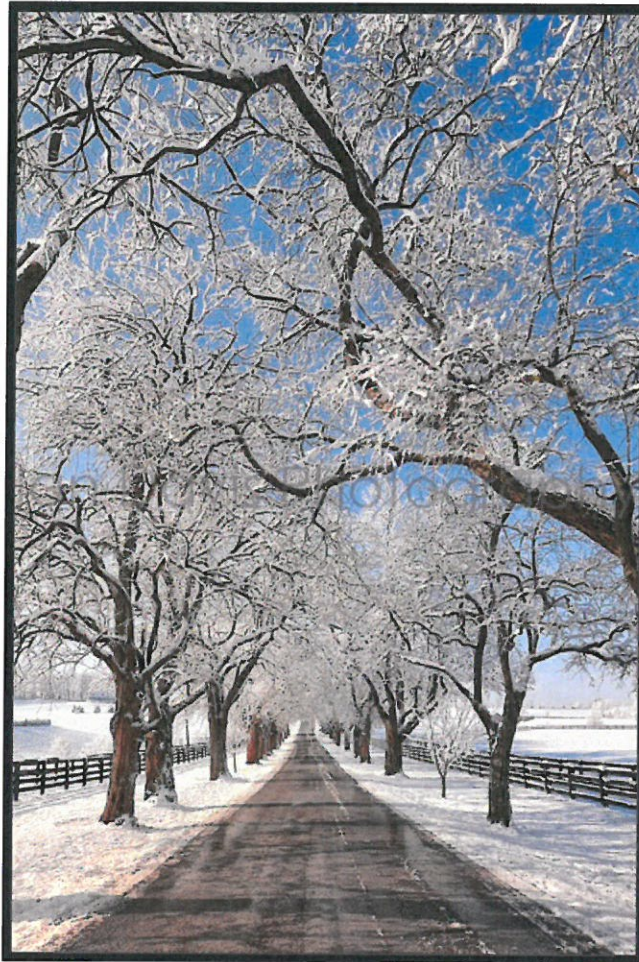




Lexington Fayette Urban County Government

# **Snow and Ice Control Plan**

**Winter 2013-2014**



**DEPARTMENT OF ENVIRONMENTAL QUALITY  
&  
PUBLIC WORKS**

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# SNOW AND ICE CONTROL PLAN

## DEPARTMENT OF ENVIRONMENTAL QUALITY & PUBLIC WORKS LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT

Winter of 2012 – 2013

### **INTRODUCTION**

Snow and ice removal in Fayette County is a combined effort between the Department of Environmental Quality & Public Works and the Kentucky Department of Highways (KYDOH). The Divisions of Streets & Roads, Water Quality and Parks & Recreation are responsible for snow and ice removal for more than 1100 lane miles of city and county roads. The state is responsible for plowing more than 500 lane miles of Federal, State, and County roads. It is often difficult for the public to distinguish between city and state roadways within Fayette County. For example, New Circle Road is a State-maintained road, while Man O War Boulevard is maintained by the city. The map in **Appendix 1** highlights the difference between City and State maintained roadways.

Every fall, representatives from the Departments of Environmental Quality & Public Works, General Services and Public Safety; the Divisions of Government Communications and Computer Services along with Fayette County Public Schools, UK, LexTran, and the KYDOH (Kentucky Department of Highways) meet to review and update the Snow and Ice Control Plan for the upcoming winter season.

The Division of Streets & Roads coordinates the long-range planning and equipment preparation for snow removal. The variety of conditions that can occur during the snow-and-ice season within Fayette County makes advance preparation rather difficult. These conditions consist of:

The rate and accumulation of snowfall, moisture content, presence of sleet and freezing rain, temperature variations - during and after the storm, wind velocity, time of day or night, storm duration, and intervals between storms all interact to make each event unique.

These various factors are considered when establishing procedures and protocols for snow and ice removal and when evaluating their effectiveness in minimizing a storm's impact on the community.



## LFUCG Snow Plan Communications Workflow



DEPARTMENT	Roles and Responsibilities					
	DIVISION	TASK	CONTACT	FUNCTION	WORK PHONE	CELL PHONE
Administration		Declares Snow Emergencies / Operations oversight	Mayor	K,I,S,D,A	258-3100	
		Declares Snow Emergencies / Operations oversight	CAO	K,I,S,D,A	258-3130	
	LexCall	Operations oversight (Communications/ Information)	Pat Tatum	I,S,D	311	
	PIO	Information distribution	Stacey Dimon	I,S	258-3306	
Environmental Quality/ Public Works	Commissioner's Office	Prepare Snow and Ice Control Plan / DEQPW EOC Coordinator	Kevin Wente	K,I,S,D	258-3407	338-5877
	Streets & Roads	Operations oversight (snow removal)	Albert Miller	K,I,S,D,A	425-2811	983-4832
	Streets & Roads	Monitors weather conditions and assigns drivers to routes	William Osborne	K,I,S,D	425-2817	983-4818
	Streets & Roads	Monitors weather conditions and assigns drivers to routes	Rob Allen	K,I,S,D	258-3451	983-2990
	Streets & Roads	Monitors weather conditions and assigns drivers to routes	Ernie Clark	K,I,S,D	258-3451	967-3882
	Water Quality	Operations oversight (snow removal - Area 7)	Rod Chervus	K,I,S,D,A	425-2408	983-8402
	Water Quality	Assigns drivers to routes (snow removal - Area 7)	Rob Clay	K,I,S,D	425-2448	983-0616
	Water Quality	EOC Coordination	Robin Wright	K,I,S	425-2419	576-7345
	Traffic Engineering	TMC/Monitor Traffic Conditions	Steve Cummins	K,I,S	258-3491	361-2589
	Traffic Engineering	TMC/Monitor Traffic Conditions	Chris Quan	K,I,S	258-3499	
	Environmental Policy	EOC Coordination	Louise Caldwell-Grant	K,I,S	425-2804	
	Engineering	Contract management / operations oversight (as requested)	Todd Lockhart	I,S	425-2214	
	Commissioner's Office	Operations oversight / EOC Preparation	Clay Mason	K,I,S,D,A	258-3280	
Public Safety	Commissioner's Office	Operations oversight / EOC Preparation	Rick Curtis	K,I,S,D	258-3281	
	Police	Traffic Control/Operations oversight	Thomas Cutsinger	K,I,S,D	258-3666	
	Fire	Emergency response/operations oversight	Mike Graves	K,I,S,D	231-5625	
	DEM	EOC Coordination / Operations / Response /Communication	Pat Duggar	K,I,S,D	258-3784	
	Parks & Recreation	Operations oversight (Parks)	Ed Chaney	K,I,S,D,A	288-2963	489-9725
K = Know, I = Inform, S = Support, D = Do, A = Approve						

## **GETTING THE WORD OUT TO THE MEDIA & PUBLIC**

Prior to the beginning of the snow season, a copy of the Snow and Ice Control Plan is available in the Office of Environmental Quality & Public Works (9<sup>th</sup> floor of the Government Center) for the media and the general public to learn about notification and operating procedures.

Should conditions dictate that the Mayor or the Commissioner of Environmental Quality & Public Works declares a snow emergency; the media will be notified by LFUCG's Division of Government Communications.

The LFUCG Traffic Management Center (TMC) also keeps the media notified of street conditions and traffic movement. The TMC sends information out continuously via the Internet, plus faxes to those without Internet access. Information goes to:

- 4 local television stations
- 22 radio stations covering 33 counties in Central Kentucky
- 5 radio stations along Interstate 75 (in emergencies)
- Kentucky State Police posts
- AAA
- Truck stops along the I-75, I-64 corridors

The TMC gathers traffic information from a variety of sources: the computerized traffic signal control system, video surveillance cameras, LFUCG Police dispatch, State Police dispatch, State Department of Highways, AAA, Kentucky Utilities, local schools, LexTran, Bluegrass Airport, and the LFUCG's Divisions of Streets & Roads, Government Communications, Engineering, and Water Quality.

The Traffic Management Center also gets information from the National Oceanic & Atmospheric Administration (NOAA), which is a weather band on a scanner that signals when weather conditions threaten to become severe.

The public can call the TRAFFIC HOTLINE at **258-3611** to hear traffic updates or check local road conditions on the TMC Web site listed below.

The public can also get information on accidents, lane blockages, and snow-and-ice trouble spots and road closures on the Cross-town Traffic Show, which is broadcast live from 6:30 a.m. to 8:30 a.m. weekday mornings on cable's GTV3.

## **WEATHER MONITORING**

During the snow-and-ice season, the Division of Streets & Roads continuously monitors the weather using in-house weather radar-tracking systems, which enables them to forecast an impending storm up to about 4 hours before it impacts the Lexington area.

The weather-radar system tracks wind directions, the velocity of an impending storm, and the type of precipitation (snow, rain, sleet, etc.). In addition, Streets & Roads also relies on temperature gauges staged throughout the State along roadways to track roadside temperature conditions, observe NOAA and local area media forecasts.



## **NINE CONDITIONS ROAD ADVISORY LIST**

The nine conditions road advisory list was developed in order to systematically advise the public of road conditions, expected travel time and, when necessary, emergency procedures that must be followed.

- |                    |   |
|--------------------|---|
| <b>Condition 1</b> | Travel unrestricted on all roads with normal caution. Snow and ice are absent from roadways. No effect on commuting time.   |
| <b>Condition 2</b> | Travel unrestricted on all main roads. Side roads and subdivision streets could have occasional snow or ice. Use extra caution when using side streets. Minimum effect on commuting time for residents.   |
| <b>Condition 3</b> | Travel unrestricted on all main roads with occasional snow or ice. Conditions are poor on subdivision and secondary streets with frequent snow or ice that could result in loss of traction. Use extra caution in all travel. Commuting time may be affected.   |
| <b>Condition 4</b> | Expect moderately hazardous snow and/or ice on most roads with reduction in ability to travel. Subdivision streets are covered with sheets of ice and are extremely hazardous. Avoid unnecessary trips. Commuting time will be doubled.   |
| <b>Condition 5</b> | Expect moderately hazardous snow and/or ice on most primary snow routes with reduction in ability to travel. Subdivision streets are covered with sheets of ice and are extremely hazardous. Avoid unnecessary trips. Commuting time will be doubled.   |
| <b>Condition 6</b> | All roads are very slick and hazardous. Serious reduction in ability to travel. Travel should be avoided if at all possible and then only if vehicle has snow tires or chains. Commuting time will be doubled.  |
| <b>Condition 7</b> | A STAGE "1" snow emergency exists and has been declared by the Mayor. Conditions warrant snow plowing. Parking is prohibited on streets and thoroughfares designated as snow emergency routes. Specific condition reports will be issued for the duration of the emergency. Commuting time will be severely affected. All unnecessary travel should be avoided.   |
| <b>Condition 8</b> | A STAGE "2" snow emergency exists and has been declared by the Mayor. Conditions warrant snow plowing. Parking is prohibited on streets and thoroughfares designated as snow emergency routes, plus parking restrictions on secondary residential streets. Commuting time will be severely affected. All unnecessary travel should be avoided.  |
| <b>Condition 9</b> | A STAGE "3" snow emergency exists and has been declared by the Mayor. Conditions warrant snow plowing. Parking is prohibited on streets and thoroughfares designated as snow emergency routes. Specific condition reports will be issued for the duration of the emergency. Commuting time will be severely affected. Travel is prohibited except for emergencies and/or essential activities and vehicles with four-wheel drive, snow tires and/or chains. |

## **NINE CONDITIONS ROAD ADVISORY LIST (cont.)**

When conditions become so severe that traffic flow and parking must be restricted for snow plowing and other snow-removal efforts, the Mayor will declare a snow emergency. A snow emergency consists of 3 stages:

- Stage 1:** No parking will be permitted on designated snow emergency routes.
- Stage 2:** No parking permitted on designated snow emergency routes plus parking restrictions on residential roads. Parking permitted on alternate sides of the street - even house numbered side on even numbered days and odd numbered side on odd numbered days.
- Stage 3:** No travel permitted on designated snow emergency routes unless vehicle is equipped with snow tires, tire chains, or four-wheel drive, or is an emergency vehicle or vehicle approved by the Mayor.

## **SNOW EMERGENCY ROUTES**

The Urban County Government has designated, with appropriate signs, approximately 82 miles of roadway as Snow Emergency Routes. These are roadways that have a high traffic volume and/or shoulders that are inadequate to accommodate disabled vehicles.

Disabled or parked vehicles along these roadways can cause problems when snow plowing is in progress. A complete listing of the designated snow emergency routes is found in **Appendix 2**.

During a snow emergency, the Division of Police can remove, or have removed, a vehicle from an emergency route to facilitate traffic movement and snow-removal efforts. This may occur:

- When the vehicle is parked in an area declared a Stage 1, 2, or 3 Snow Emergency.
- When the vehicle is stalled or disabled on the normally traveled portion of any public roadway and the owner is not attempting to remove the vehicle.

Vehicles are moved to an area designated by the Urban County Government. Car owners can retrieve their cars by calling the Police reports desk at **258-3563**. The Division of Traffic Engineering checks snow emergency route signs annually. Missing, damaged or unreadable signs are replaced.



## **TREATING THE ROADS**

Pre-treating the roads with salt brine, salt, or a mixture of salt and calcium chloride is the first step in fighting a snowstorm. The LFUCG stockpiles a minimum of 3,000 gallons of salt brine, 6,000 tons of rock salt (sodium chloride) and approximately 5,000 gallons of calcium chloride to begin the snow season.

Rock salt is the most widely used de-icing agent in the United States because of its cost and effectiveness. When the temperature is above 25 degrees, salt can melt several inches of snow and prevent or reduce the bonding of compacted snow to the pavement surface.

Salt is less effective at temperatures below 25 degrees and/or when traffic volumes are too light to activate the chemicals. For lower temperatures, a ratio of 9 gallons of liquid calcium chloride to every ton of sodium chloride (salt) is used to treat the pavement. The calcium chloride reacts with salt to create melting at temperatures to 20 degrees below zero.

Depending on the expected conditions, the Division of Streets & Roads will be proactive and apply salt brine to streets to try to keep ice and snow from bonding to the pavement.

Streets & Roads have two hand-held pavement thermometers and two truck-mounted infrared thermometers to test the temperature of the pavement. The temperature of the pavement helps them determine which method of snow-and-ice control to use.

A fog-and-ice-detection system, which detects the amount of moisture present on the pavement and determines the exact point at which it freezes, is in place on the Clays Ferry Bridge. When freezing begins, a signal is sent to the Kentucky Transportation Cabinet in Frankfort and to Lexington's Traffic Management Center. The Division of Streets & Roads is then notified that freezing has begun at Clays Ferry, and they can respond accordingly as freezing begins on Lexington's streets. In most cases, when snow reaches a depth of one inch, snow plowing is initiated.



## **STREETS PLOWED BY PRIORITY**

The priority plan for snow removal was developed by identifying a basic system of roads essential to the continuation of traffic movement. While developing this plan, the realistic capabilities of the Lexington-Fayette Urban County Government, such as equipment and personnel, were kept in mind. Priority routes were developed by considering traffic volume, access to public transportation, access to emergency services, and access to Fayette County Public Schools.

Priority streets are defined as follows: Priority 1 streets are the primary arteries in and out of the city, such as Main Street, Nicholasville Road, Richmond Road, etc. Priority 2 streets are the major connecting streets, such as Red Mile Road and Loudon Avenue. Priority 3 streets are collector routes, and Priority 4 are local streets within subdivisions, which allow residents access to the main roads.

As of November 2013, there are over 905 lane miles of priority streets in the city. (Lane miles are the number of lanes along a road multiplied by the distance.)

This priority plan is divided into 9 areas of responsibility for work crews. Each area is assigned to a supervisor who is given trucks, plows, and spreaders. Crews start with Priority 1 streets (Emergency Routes) and proceed through all of the priority streets. When these streets are plowed one time, the crews return, by priority, to the streets that need to be re-plowed. While crews are plowing streets in the urbanized area of Fayette County, other crews are also plowing county roads. Removal efforts continue until safety hazards caused by a snow or ice emergency have been eliminated.

The amount of snow, the type of snow and/or ice, and the duration of the storm affect the time it takes to complete work on each priority street. Therefore, a specific completion time cannot be given.

## **BRIDGES, HILLS & INTERSECTIONS**

Because of the increased danger to the public by snow and ice on bridges, hills, and intersections, these are given special attention. Many of these are located on priority routes, so they are handled at the same time as general salting and plowing. At the beginning of the snowfall, small salt trucks are sent to treat bridges that are located in the downtown area, or adjacent to it. Crews check each bridge, hill, and intersection periodically in case snow or ice has built up again. Some of the bridges and hills are listed below.

### **BRIDGES and HILLS (Areas likely to freeze first)**

#### **Bridges**

Alumni Dr  
Clays Mill Rd  
Citation Blvd  
Henry Clay Blvd  
Jefferson St  
Loudon Ave  
Man-O-War Blvd  
Martin Luther King Blvd  
Seventh St  
Pasadena Dr  
Tates Creek Rd  
Versailles Rd  
Virginia Ave  
W Main St  
Wilson Downing Rd

#### **Hills**

Albany Rd  
Armstrong Mill  
Beacon Hill  
Castleton Way  
Clays Mill Rd  
Emerson Dr  
Fontaine Rd  
Forbes Rd  
Fourth St  
Gainesway Dr  
Lakeshore Dr  
Lane Allen @ Parkers Mill  
Lansdowne Dr  
Malibu Dr  
N Upper St  
Oxford Circle  
Pasadena Dr  
Pebble Lake Dr  
Reynolds Rd  
Roanoke Dr  
S Broadway  
S Mill St  
S Upper St  
Shriners Ln  
Trent Blvd  
Zandale Dr

## **RURAL AREA PLAN**

The rural area snow plan designates snow removal responsibilities to the Lexington-Fayette Urban County Government and the Kentucky Department of Highways. Currently, the LFUCG is responsible for salting and plowing 115 miles (230 lane miles) of rural roadway, while the KYDOH provides snow removal for approximately 500+ miles of Fayette County's roadways.

The LFUCG's rural snow plan divides the county into two sections that are separated by Leestown Rd./Main St./Richmond Rd. The direction the snowfall is moving dictates which sections of the county crews begin plowing first. All designated roads are basically of equal priority, with the exception of hilly areas near the Kentucky River. **Appendix 3** provides a complete listing of the county roadways that are the responsibility of the LFUCG.

## **KENTUCKY DEPARTMENT OF HIGHWAYS (KYDOH) RESPONSIBILITIES AND PROCEDURES**

Because of the joint responsibility for roadways in Fayette County between the KYDOH and the Lexington-Fayette Urban County Government, it is imperative to include KYDOH in the countywide snow plan. **Appendix 3** contains a map highlighting state and county routes, information on KYDOH, and a list of state-maintained roads by priority.

The KYDOH contracts the majority of snow removal on I-75, I-64, and New Circle Road, so its crews can concentrate on keeping the other routes in Fayette County salted and plowed. To help with response time, the state calls the Lexington Division of Police when snow moves into the counties within 30 miles of Fayette County. A copy of the KYDOH's ice and snow removal plan is available online:

<http://transportation.ky.gov/maintenance/pages/snow-and-ice-priority-maps.aspx>

## **HOURS OF OPERATION**

During the snow season, **Streets & Roads** supervisors are on call 24 hours a day, 7 days a week, on a rotating basis. If the Division of Police determines that slick or icy spots are developing on roadways, they alert Streets, Roads & Forestry's on-call personnel and salt trucks are dispatched to the trouble spots. In a snow emergency, crews from Streets & Roads and Water Quality work 12-hour shifts around-the-clock until the priority roads are cleared.



### **HELP FROM OTHER DIVISIONS**

The Division of Water Quality clears a significant portion of lane miles, using its personnel, 8 dump trucks and two 4x4 pickup trucks. Also, the Divisions of Waste Management, Parks & Recreation, Traffic Engineering, and Engineering provide equipment and personnel. Some normal operations of these divisions, such as garbage collection, can be suspended or curtailed as equipment and personnel are reallocated to the snow removal effort.

The Division of Fleet Services puts its staff on a 24-hours-a-day, 7-days-a-week schedule in severe weather to service and repair snow-removal equipment. Personnel from the Divisions of Streets & Roads and Water Quality are often activated to unclog storm-water basins and maintain storm-water sewers during snow emergencies.

### **LFUCG EQUIPMENT**

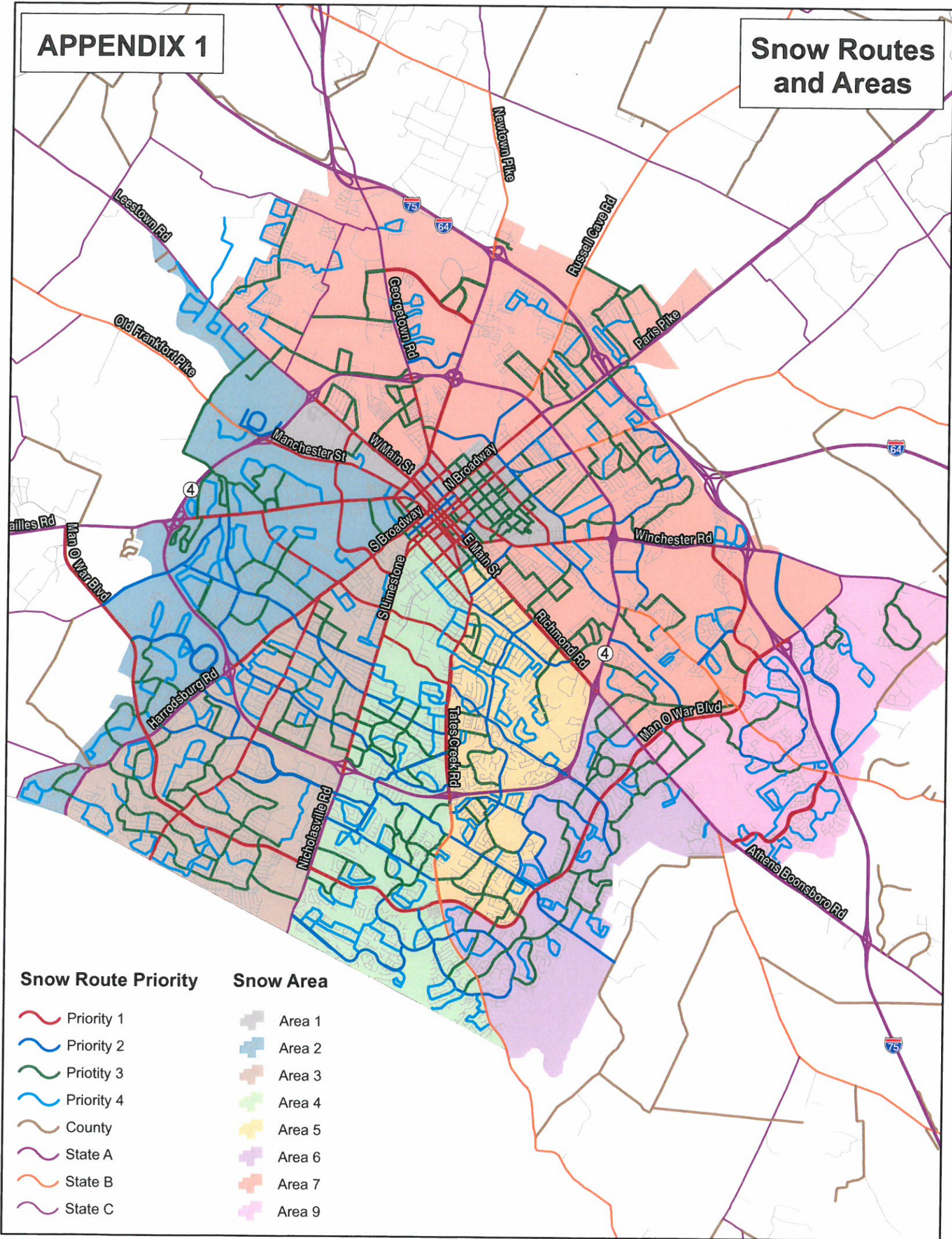
The Urban County Government has on hand for the 2013-2014 snow season a total of 46 trucks with plows; this consists of 32 dump trucks, 8 super-duty trucks, and (6) 4x4 pickup trucks. Additionally, there is 1 front-end loader, two skid loaders, one grader, and two backhoes.

### **LFUCG GARBAGE COLLECTION POLICY IN SNOW OR ICE EVENTS**

Municipal regulations and public health protection require that the Division of Waste Management provide garbage, recyclables, and yard waste collection regardless of weather conditions. The exception is in emergency situations such as heavy snow and ice when management, for the safety of its employees and the public, can suspend all collections to keep its heavy vehicles off the streets until road conditions improve. When collections are temporarily suspended, LexCall and the LFUCG's Government Communications office are notified to provide information to the public.

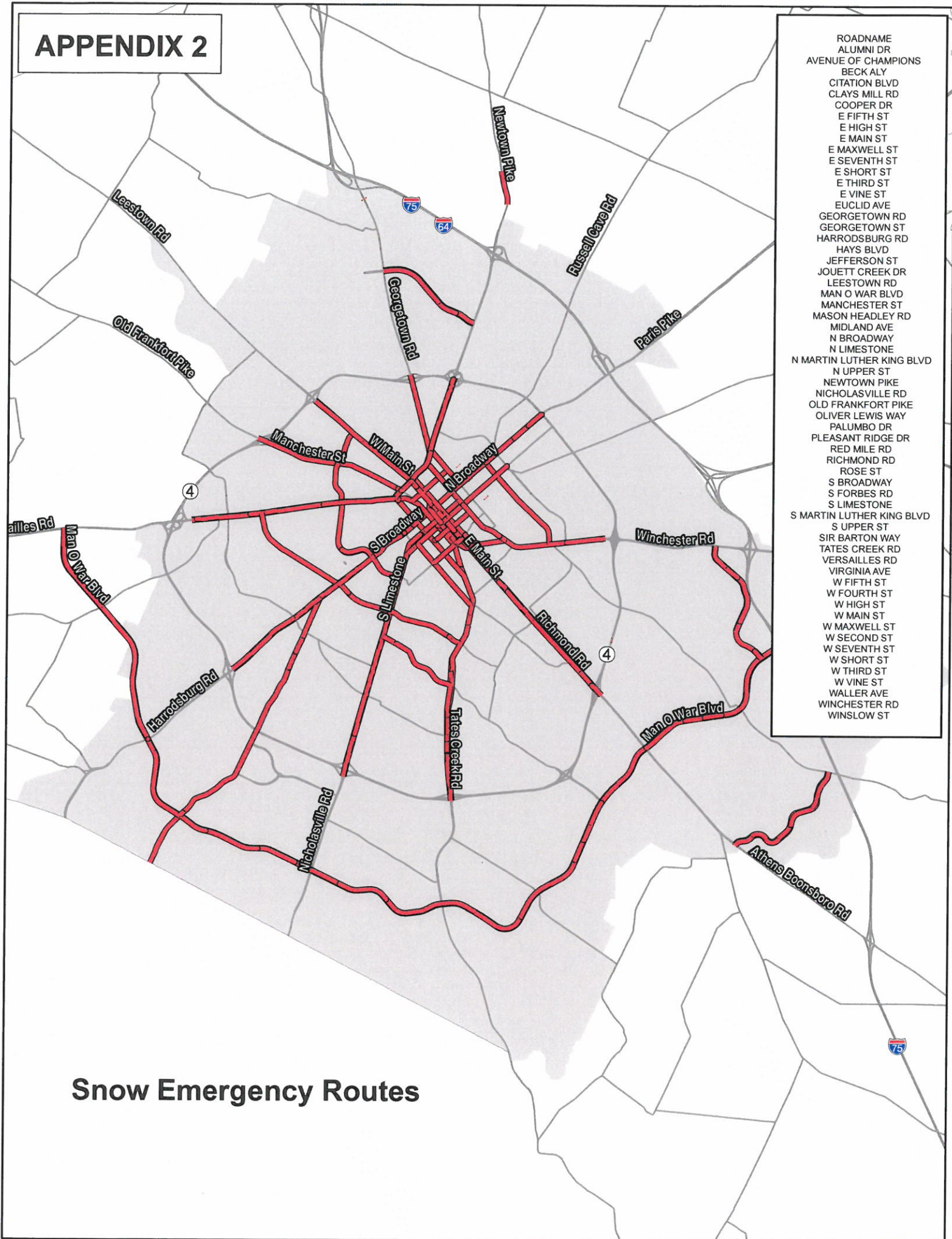
# APPENDIX 1

## Snow Routes and Areas





# APPENDIX 2





## APPENDIX 3

